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04/13/2001

Edward A. Hubbard

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8392

29444

7590

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EXAMINER

DALENCOURT, YVES

ART UNIT

PAPER NUMBER

2157

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/834,785

Applicant(s)

HUBBARD, EDWARD A.

Examiner

Yves Dalencourt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4-6</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This office action is responsive to communication filed on 04/13/01.

### ***Specification***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Therefore, " disclosed " (page 70, line 4) is implied and should be avoided.

The disclosure is objected to because of the following informalities: It is suggested to delete one of " that " (page 60, line 27).

It is suggested to delete " the " (page 61, line 10).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US 6,601,101; hereinafter Lee) in view of Applicant's admitted prior art (pages 2 and 3 in the specification).

Regarding claims 1 and 2, Lee teaches a method of operating a distributed processing system to provide network attached storage (NAS) services (col. 1, lines 15 – 22), which comprises the steps of configuring a client agent program to have a software-based (NAS) component and to take advantage of unused or under-utilized resources of a plurality of network-connected distributed devices put into operation for purposes distinct from operating the client agent program to provide NAS services (col. 2, lines 7 – 28; Lee discloses a network attached storage in which, disks are detached from the server and placed on the network); and utilizing the plurality of distributed devices running the client agent to provide NAS services to network-connected user devices (paragraph bridging col. 5, line 66 through col. 6, line 56).

Lee discloses a switch configured so that virtual storage devices can be cascaded. That is one or more of the plurality of storage devices coupled with the switch may be another switch configured to appear as a virtual storage device (col. 4, lines 39 – 43), but fails to explicitly teach the idea of a network-connected user devices recognizing at least a portion of the plurality of distributed devices as dedicated NAS devices as claimed.

However, Applicant's admitted prior art teaches the idea of a specialized file server that connects to the network to provide storage capacity to network-connected users (see background, pages 2 and 3).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's device by having a network-connected user devices recognizing at least a portion of the plurality of distributed devices as dedicated NAS devices for the purpose of increasing the overall performance of the system while reducing the total cost of ownership.

Regarding claim 3, Lee and Applicant's admitted prior art teach all the limitations in claim 1, and Lee further teaches a method of operating a distributed processing system to provide network attached storage (NAS) services, wherein at least one of the network-connected distributed devices stores location information for data stored by the plurality of network-connected distributed devices (col. 4, lines 39 - 65).

Regarding claim 4, Lee and Applicant's admitted prior art teach all the limitations in claim 3, and Lee further teaches utilizing at least one of the distributed devices storing data location information to receive data storage and access requests from the user devices and to direct the user devices to the distributed devices storing the requested data (col. 4, lines 39 - 65).

Regarding claim 5, Lee and Applicant's admitted prior art teach all the limitations in claim 4, and Lee teaches a method of operating a distributed processing system to provide network attached storage (NAS) services, wherein the plurality of network-

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connected distributed devices provide NAS services without relying upon a centralized server system (col. 2, lines 38 – 47).

Regarding claim 6, Lee and Applicant's admitted prior art teach all the limitations in claim 1, and Lee further teaches a method comprising managing the NAS services provided by the plurality of network-connected distributed devices at least in part utilizing at least one centralized server system (col. 4, lines 19 – 23; Lee discloses that it is particular useful when a server is a virtual IP address for multiple devices such as NAS).

Regarding claim 7, Lee and Applicant's admitted prior art teach all the limitations in claim 6, and Lee further teaches a method, wherein the server system downloads the NAS component to the plurality of network-connected distributed devices, the NAS component configured to operate as part of the client agent program already installed on the distributed devices (col. 19, lines 37 – 50; Lee discloses a TCP handoff involves transferring TCP state information from the server to a disk).

Regarding claim 8, Lee and Applicant's admitted prior art teach all the limitations in claim 6, and Lee further teaches a method, wherein the centralized server system stores location information for data stored by the plurality of network-connected distributed devices and at least in part directs the user devices to the distributed devices storing the requested data (col. 7, lines 11 – 15; Lee discloses the first device determines that another device in the cluster is better suited to handle the client request).

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Regarding claim 9, Lee and Applicant's admitted prior art teach all the limitations in claim 8, and Lee further teaches a method comprising utilizing the server system to receive data storage and access requests from the user devices and to allocate data storage and access workloads to the plurality of distributed devices based upon individual capabilities of the plurality of distributed devices, the individual capabilities being stored in a database by the server system (col. 5, lines 4 – 17; col. 7, lines 35 – 58; col. 19, lines 15 – 67; col. 20, lines 1 – 26; Lee discloses load balancing, which refers to networked devices which can share a work load, for instance two or more servers).

Regarding claim 10, Lee and Applicant's admitted prior art teach all the limitations in claim 9, and Lee further teaches a method, wherein plurality distributed devices are connected to the Internet (col. 2, lines 22 – 35; col. 4, lines 32 – 35).

Regarding claim 11, Lee and Applicant's admitted prior art teach all the limitations in claim 1, and Lee further teaches a method comprising managing storage resources for the plurality of distributed devices using a storage priority control that facilitates full use of available storage resources (col. 2, lines 7 – 19; col. 7, lines 35 – 58; Lee discloses that when the first device is a load balancing device, satisfactory measures for load balancing may include traffic through the switch, reported workload or available capacity of alternate devices, or analysis of the services being requested).

Regarding claims 12 – 14, Lee and Applicant's admitted prior art teach all the limitations in claim 11, but fails to explicitly teach a method, wherein the storage priority control comprises a parameter selectable through the client device (claim 12); wherein

the storage priority control comprises storage priority level schemes that prioritize data storage and deletion (claim 13); and wherein the storage priority control comprises a priority marking directly given to data or files (claim 14).

However, “**official notice**” is taken that the concept and advantages of having a storage priority control that comprises a parameter selectable through the client device; wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion; and wherein the storage priority control comprises a priority marking directly given to data or files are old and well known in the art.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee and Applicant’s admitted prior art by having a storage priority control that comprises a parameter selectable through the client device; wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion and wherein the storage priority control comprises a priority marking directly given to data or files for the purpose of providing higher overall multi-processing system performance efficiency.

Regarding claims 15 and 16, Lee teaches a distributed processing system providing network attached storage (NAS) services (col. 1, lines 15 – 22), which comprises a client agent program to have a software-based (NAS) component and to take advantage of unused or under-utilized resources of a plurality of network-connected distributed devices put into operation for purposes distinct from operating the client agent program to provide NAS services (col. 2, lines 7 – 28; Lee discloses a network attached storage in which, disks are detached from the server and placed on



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the network); and utilizing the plurality of distributed devices running the client agent to provide NAS services to network-connected user devices (paragraph bridging col. 5, line 66 through col. 6, line 56).

Lee discloses a switch configured so that virtual storage devices can be cascaded. That is one or more of the plurality of storage devices coupled with the switch may be another switch configured to appear as a virtual storage device (col. 4, lines 39 – 43), but fails to explicitly teach the idea of a network-connected user devices recognizing at least a portion of the plurality of distributed devices as dedicated NAS devices as claimed.

However, Applicant's admitted prior art teaches the idea of a specialized file server that connects to the network to provide storage capacity to network-connected users (see background, pages 2 and 3).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's device by having a network-connected user devices recognizing at least a portion of the plurality of distributed devices as dedicated NAS devices for the purpose of increasing the overall performance of the system while reducing the total cost of ownership.

Regarding claim 17, Lee and Applicant's admitted prior art teach all the limitations in claim 15, and Lee further teaches a distributed processing system providing network attached storage (NAS) services, wherein at least one of the network-connected distributed devices stores location information for data stored by the plurality of network-connected distributed devices (col. 4, lines 39 - 65).

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Regarding claim 18, Lee and Applicant's admitted prior art teach all the limitations in claim 17, and Lee further teaches a distributed processing system, wherein the distributed devices storing data location information to receive data storage and access requests from the user devices and to direct the user devices to the distributed devices storing the requested data (col. 4, lines 39 - 65).

Regarding claim 19, Lee and Applicant's admitted prior art teach all the limitations in claim 18, and Lee further teaches a distributed processing system, wherein the plurality of network-connected distributed devices provide NAS services without relying upon a centralized server system (col. 2, lines 38 - 47).

Regarding claim 20, Lee and Applicant's admitted prior art teach all the limitations in claim 15, and Lee further teaches a distributed processing system providing network attached storage (NAS) services, which at least in part, utilizing at least one centralized server system (col. 4, lines 19 - 23; Lee discloses that it is particular useful when a server is a virtual IP address for multiple devices such as NAS).

Regarding claim 21, Lee and Applicant's admitted prior art teach all the limitations in claim 20, and Lee further teaches a distributed processing system providing network attached storage (NAS) services, wherein the server system downloads the NAS component to the plurality of network-connected distributed devices, the NAS component configured to operate as part of the client agent program already installed on the distributed devices (col. 19, lines 37 - 50; Lee discloses a TCP handoff involves transferring TCP state information from the server to a disk).

Regarding claim 22, Lee and Applicant's admitted prior art teach all the limitations in claim 20, and Lee further teaches a distributed processing system providing network attached storage (NAS) services, wherein the centralized server system stores location information for data stored by the plurality of network-connected distributed devices and at least in part directs the user devices to the distributed devices storing the requested data (col. 7, lines 11 – 15; Lee discloses the first device determines that another device in the cluster is better suited to handle the client requested data.

Regarding claim 23, Lee and Applicant's admitted prior art teach all the limitations in claim 22, and Lee further teaches a distributed processing system providing network attached storage (NAS) services; wherein the server system is configured to receive data storage and access requests from the user devices and to allocate data storage workloads to the plurality of distributed devices based upon individual capabilities of the plurality of distributed devices, and further comprising a capabilities database connected to the server system and storing capabilities parameters for the plurality of distributed devices (col. 5, lines 4 – 17; col. 7, lines 35 – 58; col. 19, lines 15 – 67; col. 20, lines 1 – 26; Lee discloses load balancing, which refers to networked devices which can share a work load, for instance two or more servers).

Regarding claim 24, Lee and Applicant's admitted prior art teach all the limitations in claim 22, and Lee further teaches a distributed processing system

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providing network attached storage (NAS) services, wherein plurality distributed devices are connected to the Internet (col. 2, lines 22 – 35; col. 4, lines 32 – 35).

Regarding claim 25, Lee and Applicant's admitted prior art teach all the limitations in claim 15, and Lee further teaches a distributed processing system providing network attached storage (NAS) services comprising a storage priority control associated with the storage resources for the plurality of distributed devices, the storage priority control configured to facilitate full use of available storage resources (col. 2, lines 7 – 19; col. 7, lines 35 – 58; Lee discloses that when the first device is a load balancing device, satisfactory measures for load balancing may include traffic through the switch, reported workload or available capacity of alternate devices, or analysis of the services being requested).

Regarding claims 26 – 28, Lee and Applicant's admitted prior art teach all the limitations in claim 11, but fails to explicitly teach a method, wherein the storage priority control comprises a parameter selectable through the client device (claim 12); wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion (claim 13); and wherein the storage priority control comprises a priority marking directly given to data or files (claim 14).

However, "**official notice**" is taken that the concept and advantages of having a storage priority control that comprises a parameter selectable through the client device; wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion; and wherein the storage priority control comprises a priority marking directly given to data or files are old and well known in the art.

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Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee and Applicant's admitted prior art by having a storage priority control that comprises a parameter selectable through the client device; wherein the storage priority control comprises storage priority level schemes that prioritize data storage and deletion and wherein the storage priority control comprises a priority marking directly given to data or files for the purpose of providing higher overall multi-processing system performance efficiency.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bonnell et al (US Patent Number 5,655,081) discloses a system for monitoring and managing computer resources and applications across a distributed computing environment using an intelligent autonomous agent architecture.

### **Contact Information**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yves Dalencourt whose telephone number is (703) 308-8547. The examiner can normally be reached on M-TH 7:30AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703) 308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yves Dalencourt

  
August 31, 2004



**SALEH NAJJAR  
PRIMARY EXAMINER**